Certificate of Analysis

Number: 6030-20120155-003A

Artesia Laboratory
200 E Main St.
Artesia, NM 88210
Phone 575-746-3481

Matt Erickson
Marathon Oil Corporation
4111 S. Tidwell
Carlsbad, NM 88220

Dec. 22, 2020

Station Name:	Cypress Fee 23-27-9 2H Production	Sampled By:	Derek Sauder
Station Number:	17533GP	Sample Of:	Gas Spot
Station Location:	Marathon	Sample Date:	12/18/2020
Sample Point:	Meter Run	Sample Conditions:	54.15 psig, @ 57 °F Ambient: 50 °F
Type of Sample:	Spot-Cylinder	Effective Date:	12/18/2020
Heat Trace Used:	N/A	Method:	GPA-2261M
Sampling Method:	Fill and Purge	Cylinder No:	1111-001285
Sampling Company:	SPL	Instrument:	70104251 (Inficon GC-MicroFusion)
Analyzed:	12/22/2020 10:42:55 by ADH	Last Inst. Cal.:	12/21/2020 0:00 AM

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	0.965	0.97513	1.342		GPM TOTAL C2+	4.917
Methane	80.694	81.53289	64.266		GPM TOTAL C3+	2.207
Carbon Dioxide	0.123	0.12468	0.270		GPM TOTAL iC5+	0.472
Ethane	10.054	10.15887	15.009	2.710		
Propane	4.030	4.07137	8.821	1.119		
Iso-butane	0.641	0.64776	1.850	0.211		
n-Butane	1.274	1.28724	3.676	0.405		
Iso-pentane	0.352	0.35556	1.260	0.130		
n-Pentane	0.353	0.35697	1.265	0.129		
Hexanes Plus	0.485	0.48953	2.241	0.213		
	98.971	100.00000	100.000	4.917		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.7048	3.2176
Calculated Molecular Weight	20.35	93.19
Compressibility Factor	0.9967	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	1223	5113
Water Sat. Gas Base BTU	1202	5024
Ideal, Gross HV - Dry at 14.65 psia	1218.6	5113.2
Ideal, Gross HV - Wet	1197.3	5023.7

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Flaring/Venting Event Volume (MCF):	87.93
Flare or vent:	Flare
Date discovered:	7/27/2021
Time discovered:	12:00 AM
Date terminated:	7/27/2021
Time terminated:	3:56 AM
Total Duration (hrs):	4

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 40752

QUESTIONS

Operator: MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston, TX 77056	OGRID: 372098
	Action Number: 40752
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Determination of Reporting Requirements	
Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide addional guidance.	
Was or is this venting or flaring caused by an emergency or malfunction	Yes
Did or will this venting or flaring last eight hours or more cumulatively within any 24-hour period from a single event	No
Is this considered a submission for a notification of a major venting or flaring	**Yes, minor venting or flaring of natural gas.**
The operator shall file a form C-141 instead of a form C-129 for a release that includes liquid during venting or flaring that is or may be a major or minor release under 19.15.29.7 NMAC.	
Was there or will there be **at least 50 MCF** of natural gas vented or flared during this event	Yes
Did this venting or flaring result in the release of **ANY** liquids (not fully and/or completely flared) that reached (or has a chance of reaching) the ground, a surface, a watercourse, or otherwise, with reasonable probability, endanger public health, the environment or fresh water	No

Unregistered Facility Site	
Please provide the facility details, if the venting or flaring occurred or is occuring at a facility that does not have an Facility ID (f#) yet.	
Facility or Site Name	Cypress 2H
Facility Type	*Not answered.*

Equipment Involved	
Primary Equipment Involved	Producing Well
Additional details for Equipment Involved. Please specify	high pressure flare

Representative Compositional Analysis of Vented or Flared Natural Gas	
Please provide the mole percent for the percentage questions in this group.	
Methane (CH4) percentage	81
Nitrogen (N2) percentage, if greater than one percent	1
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (C02) percentage, if greater than one percent	0
Oxygen (02) percentage, if greater than one percent	0
If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.	
Methane (CH4) percentage quality requirement	*Not answered.*
Nitrogen (N2) percentage quality requirement	*Not answered.*
Hydrogen Sufide (H2S) PPM quality requirement	*Not answered.*
Carbon Dioxide (C02) percentage quality requirement	*Not answered.*
Oxygen (02) percentage quality requirement	*Not answered.*

Date(s) and Time(s)	
Date venting or flaring was discovered or commenced	07/27/2021
Time venting or flaring was discovered or commenced	12:00 AM
Is the venting or flaring event complete	Yes
Date venting or flaring was terminated	07/27/2021
Time venting or flaring was terminated	03:56 AM
Total duration of venting or flaring in hours, if venting or flaring has terminated	4
Longest duration of cumulative hours within any 24-hour period during this event	4

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	Cause: High Line Pressure | Producing Well | Natural Gas Flared | Spilled: 85 Mcf | Recovered: 0 Mcf | Lost: 85 Mcf]
Other Released Details	*Not answered.*
Additional details for Measured or Estimated Volume(s). Please specify	*Not answered.*
Is this a gas only submission (i.e. only Mcf values reported)	**Yes, according to supplied volumes this appears to be a "gas only" report.**

Venting or Flaring Resulting from Downstream Activity	
Was or is this venting or flaring a result of downstream activity	Yes
Date notified of downstream activity requiring this venting or flaring	*Not answered.*
Time notified of downstream activity requiring this venting or flaring	*Not answered.*

Steps and Actions to Prevent Waste

For this event, the operator could not have reasonably anticipated the current event and it was beyond the operator's control.	True
Please explain reason for why this event was beyond your operator's control	High Line Pressure, no notification was given prior to event
Steps taken to limit the duration and magnitude of venting or flaring	No notification of event was provided, and therefore limiting the duration or magnitude of event was not feasible.
Corrective actions taken to eliminate the cause and reoccurrence of venting or flaring	Increased back pressure relief valve to flare to limit potential flaring during downstream upsets, but still maintain safety at the facility.

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CONDITIONS

Action 40752

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Operator: MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston, TX 77056	OGRID: 372098
	Action Number: 40752
	Action Type: [C-129] Venting and/or Flaring (C-129)

CONDITIONS

Created By	Condition	Condition Date
system	If the information provided in this report requires an amendment, submit a [C-129] Request to Amend Venting and/or Flaring Incident, utilizing your incident number from this event.	8/9/2021